FLASHES AND PLUGS

"DRUNK ON GASOLINE." A few weeks ago we casually mentioned a few of the ways that gas can cause death, and emphasized that *"stepping on it"* is a sure way to miss out on retirement income collection. Now the National Safety Council, pointing to a record April traffic death toll of 2,650 accused the U. S. of being *"drunk on gasoline."*

We are a "tanked up country," N. H. Dearborn, Safety Council president, said, *"unable or unwilling to use new travel freedom with temperance."*

Unless we sober up, he warned, the blood of traffic victims will blot out the bright history of our war accomplishments. The April toll was 47 per cent higher than that of April, 1945.

• • •

FLAG POLE SITTER IN TROUBLE. The pole sitter described to you in this department May 25 is suffering from a series of troubles that may cause him to steal "Gran-Pappy's" chair and abandon pole sitting for porch sitting. Just to keep you up-to-date here's the latest.

First, the Ohio Bell Telephone Co., after painful deliberation, has adopted a definite policy on installation of a handset telephone on the top of the 308-ft. inhabitable flagpole. . . . It won't do it!

This matter came up when Marshall Jacobs, the 37-year-old steeple-jack of Coshocton, Ohio, started talking about a telephone on top the pole he had set up in Conesville. Earthbound people, he told the company, get tired of monotony and would like to call him.

Second, if Jacobs had been on top the flag pole on May 24 he would have lost altitude abruptly! . . . The pole did. It fell into Muskingum River, narrowly missed Jacob's father who was out there in a rowboat, caused the greatest splash ever heard in Conesville, created a respectable tidal wave, and conked two medium-sized catfish which later were seen belly-up in a nearby whirlpool.

Jacobs says he deliberately felled the pole in preparation for moving it to Coshocton County Fairgrounds, where he has transferred his stunt.

In any event, there was wild excitement for a while. The top joint of the pole came loose and now rests on the river bottom. Jacobs is limping because another piece of the pipe rolled onto his foot. Some old hand declared that all the fish have been scared so badly there won't be a decent fish caught in Coshocton County streams this season.

It was pretty late before things quieted down and nearly everyone slept a little later than usual next morning.

• • •

WE INSPIRE A POEM! That our weekly collection of odds and ends of interest to telephone folks should inspire a prospective bard to salute us in prose is unbelievable but anyway here's our first fan letter:

"The department of Plugs and Flashes
With merriment and life-truth splashes,
It takes the reader unawares
With gay and technicolor wares . . ."

• • •

MILLIONS FOR COURTESY! That courtesy is good business is indicated by the fact that the people of the United States pay more than $10,000,000 a year in telegraph tolls to add the word *"please"* to their messages.

TELEPHONY

The Journal of the Telephone Industry

JUNE 15, 1946

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RESOURCES . . .

In the Great Ports

Where bays and indentations occur in coast lines, shelter from the force of wind and waves is available. There, ships can load and unload cargoes and passengers can embark and disembark; docks and wharfs are constructed, warehouses and office buildings are erected and the terminus points of rail and roadways are located.

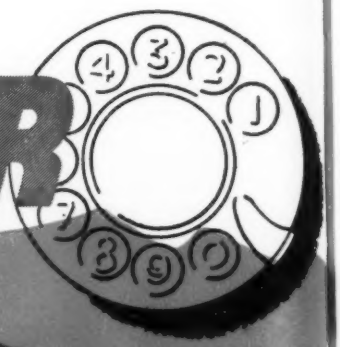
The seaport is a vital link connecting land and sea routes. Telephone services, within it and extending to the many centres from which export material is drawn or to which imports are distributed, are essential. Long distance trunk calls are frequently necessary and through connections are required with the minimum delay.

The provision of "on demand" service enables a trunk call to be routed direct to the distant exchange without need for the calling subscriber to replace his telephone handset and await a revertive call from the exchange operator.

"On demand" service can be obtained by Strowger Automatic Telephone equipment working in conjunction with sleeve control cord circuits which, being identical on all trunk switch board positions, enable any operator to complete a call in a group with an equivalent saving in time.

with STROWGER

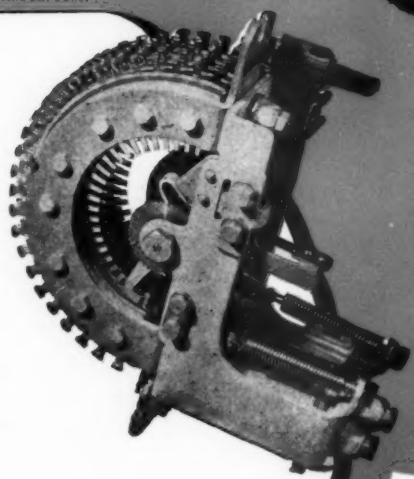
TELECOMMUNICATIONS



UNISELECTOR

contacts can be fitted as an alternative to the non-bridging type if necessary.

- *has often a "homing" arc fitted to provide a simple method of bringing the wipers to the "home" position after use.*
- *has the reverse drive principle of working.*
- *has been designed to work on 22, 40 and 50 volts.*
- *has, for any 50-volt uni-selector, a minimum speed of 50 complete revolutions per second when the magnet circuit is self-interrupted.*



STROWGER WORKS,
LIVERPOOL 7, ENGLAND

Editorial

GREATER COURAGE HATH NONE

WE DID NOT KNOW Mrs. JULIA BERRY, the heroic switchboard operator who lost her life in the disastrous LaSalle Hotel fire in Chicago on June 5. Probably you didn't know her, as an individual, either. Although if you had stayed at the LaSalle Hotel during the past 13 years and used your telephone any time between 11 p.m. and 7 a.m., she probably handled your call for that was her lonely shift. And your probably took her for granted, grumbled a bit if the connection was slow and like a few million other American citizens never realized how you depended upon the reliability of the telephone and its employes to take your voice where you wanted it to go.

Then something like the LaSalle Hotel fire comes along. The "*took-for-granted* service," which normally moves so smoothly, suddenly proves in as the instrument of emergencies. It serves as an ubiquitous watchman that performs at its very best when it is in a dangerous crisis, right in the nervous center of a panic. It performs its best because it is manned by calm men and women whose predecessors in the telephone industry long ago adopted two unwritten, unenforced, but ever present, laws that plainly state—"*The message must go through*," and "*In time of emergency stay at your post.*"

Julia Berry must have known those two unwritten laws, but it is doubtful that they came to her mind on the night of June 5. Somehow, telephone people in an emergency just naturally do things to help other folks for that's what their chosen work seems to be—doing things for the other fellow; making connections, serving continuously. Julia Berry was one of that group.

When the fire broke out shortly after midnight and in a single tragic moment engulfed the lower floors and swept upward, it was natural for Julia Berry to think of others and ignore warnings to "*Get out quickly —while you have a chance.*"

There was work to be done; emergency service to be performed, and Julia Berry stayed at her post, plugging and calling rooms, efficiently and rapidly. In quiet, even tones she told guests, "*Fire has broken out. Please leave your room as quickly as possible.*"

And when a hotel official fought his way through the choking fumes to her side and yelled, "*Get out quick—the fire's catching the stairs, you'll be trapped in a minute!*" Julia Berry stayed at her job. "*I haven't rung all of the rooms*," she said. "*We've got to give those folks on the top floors a chance.*"

So she remained at her self-appointed task, despite efforts of one official to remove her by force. She called room after room and only gave up the job when smoke and fumes finally left her slumped lifeless at the switchboard, earphones still on her head, and her hand clutching a cord to make one more call.

No, we did not know Julia Berry, but we do know the unwritten laws and the desire to give service that kept her at that flame-engulfed switchboard and caused her to give her life that others might live. Telephone men and women have made thinking of the needs of others a habit, and in the history of the industry there is a long list of names of telephone heroes and heroines to which can now be added the name of Julia Berry.

She has many "pals" on that list—"pals" she never met. There's Helen Sullivan who in 1937 stayed at her board in a large hotel in Jersey City and died as a result of burns she received while summoning aid and warning guests. There's Mrs. S. J. Rooke, the operator in Folsom, N. M., who stayed at her board to warn people of a flood that had broken loose in the hills above the village, and was drowned at the switchboard. And then there's Jennie Crouse, who in 1942 stayed at her board when a cyclone wrecked the little town of Alvin, Ill., and summoned aid from nearby towns. Those are just a few.

Now high upon the list of telephone heroines we can place the name of JULIA BERRY. And we can record that her courage, loyalty and devotion to duty, which she first developed as an operator for the telephone company in Chicago, undoubtedly saved hundreds of lives. It gives the rest of us a pattern for living, or as her son Jack said when he was informed of the tragedy— ". . . *With a heritage like that, how can I miss? I have her to live up to.*"

That, we think, makes a fitting epitaph for JULIA BERRY, the woman very few of us telephone folks knew, but who died because she had a *heritage to live up to.*

Telephone TRAFFIC Engineering

By P. M. Schuchart
Traffic Manager, Central Telephone Co.
Sioux Falls, S. D.

[EDITOR'S NOTE: *In this chapter, the author explains that events of national or world importance always are foreshadowed by an increase in telephone traffic volume. In general the public reacts slowly to good service, but sudden and and violently to any evidence of deterioration in the quality of service furnished. He also explains that quality of service during off-peak hours must not be neglected. Too many operators on a switchboard are just as detrimental as too few. Chapter I appeared June 8, page 13.*]

* * *

TRAFFIC is a funny business. This is to be expected since it deals closely and intimately with people. It should not take the well known and popular radio program, "*People are Funny*," to convince us that all aspects of getting along one with another are serious and somber. Just exactly what causes traffic to be a funny business is a question traffic men often answer by asking another: "Why do women wear funny hats?" For those who hesitate in agreeing with this assumption, let us compromise and say, "Traffic is a peculiar business," and admit that it combines the necessity of getting the best and most out of facilities and personnel available as well as getting along with those who do wear funny hats.

There are any number of good and logical reasons why this should be so, but for the moment, let us consider just one: That close and intimate relationship with the public. As a barometer of public trends, traffic has few equals and no superior, stock market transactions and bank clearings to the contrary notwithstanding. The very first surge of any up-swing in business makes itself felt in increased toll volume and increased calling rate and gives an indication that something is happening, or about to happen. On the other hand, the initial signs of a business recession occur in the decreased volume of offered traffic. A storm break, a flood, or a catastrophe of any kind, sends its repercussions into the central office, and generally those repercussions come in with a bang.

Almost over night the calling rate, average holding time and various other characteristics of a central office may change, and, too often, the very last persons to realize that such a change has come about are those responsible for seeing that it gets through. Perhaps we can't see the woods for the trees, or vice versa. This became painfully obvious and apparent during the months before Pearl Harbor. It was indeed matriarchal astonishment that reviews were made of traffic load reports and the realization became clear that such volumes were going through the various central offices. In many cases the edict of WPB relative to 110 per cent of central office capacity came well after the fact.

Since telephone traffic deals closely with the public, it is that very same public which reacts—slowly to good or unusual service, but rapidly and violently to any evidence of deterioration in the quality of service. That appears to be a major premise of traffic operation which is too often overlooked, or not recognized. We are inclined to expect praise for services well done and patience when things start to slip. Such is not the case.

Going back to that Exchange "X," which we discussed in Chapter I, TELEPHONY, June 8, page 13, one complaint was slow answers by the local operator. To check this complaint, stop watch observations were made at the switchboard, and test calls were placed from the premises of various subscribers. Much to the surprise of everyone concerned, those observations and tests showed answering time as not bad at all.

However, slow answer complaints continued to be received. Of course, observation did indicate that the answering time was "spotty," many lights being "pulled down" within three or four seconds, but others going over 10 or even 15 seconds. Further inquiry and checking indicated that these slow answers were being received during the lunch periods and during the dinner hours. To everyone in this office, slow answers at these times were "quite impossible," if for no other reason that these were the "off peak" hours.

As previously pointed out, the first step taken in making an analysis of this traffic situation was to take a complete peg count. Upon the completion of this count, a graph was drawn showing the hourly equation of the switchboard position load and requirements. Then on this graph there was superimposed a curve showing the hourly force adjustment schedule, making certain that the relief operators were not shown,—only those who were on the board. This was the schedule then in effect which was as follows:

HOURS	POSITION LOAD	OPERATORS SCHEDULED	DIFFERENCE
8:00- 9:00	13	14	+1
9:00-10:00	14	15	+1
10:00-11:00	16	17	+1
11:00-12:00	17	16	—1
12:00- 1:00 (P.M.)	15	15	—
1:00- 2:00	17	16	—1
2:00- 3:00	18	17	—1
3:00- 4:00	17	17	—
4:00- 5:00	15	16	+1
5:00- 6:00	14	16	+2
6:00- 7:00	14	17	+3
7:00- 8:00	17	18	+1
8:00- 9:00	18	18	—
9:00-10:00	19	18	—1

The rough graph (see page 15) indicates these curves and the discrepancies are apparent.

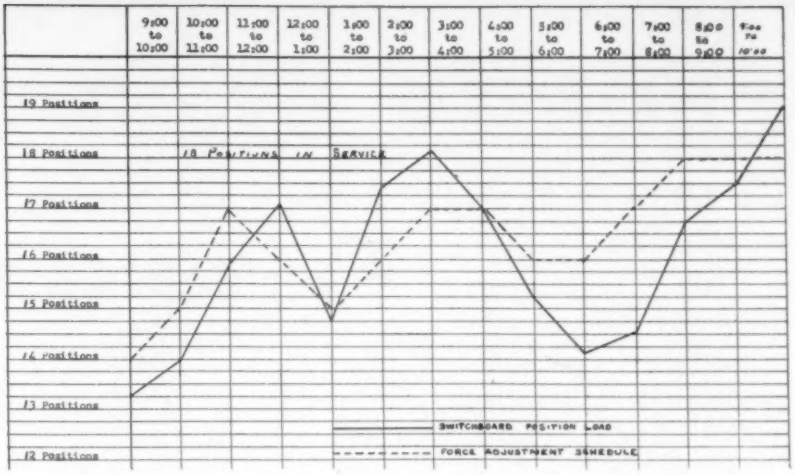
Reviewing the contrasts shown in these curves, it is well worth noting that in seven of the 14 hours equated, there were more operating personnel on the switchboard than the load required. There were four hours in which there were less operators than

were required, and during only three hours did the force adjustment schedule exactly meet the operating load.

By changing the scheduled tours of duty, it was possible to provide sufficient operating personnel to meet the requirements of the load without an increase in the total number of employes. Since it is a widely accepted axiom that too many operators are just as detrimental —if not more so—than too few, the improvements accomplished by equalizing the force adjustment schedule with the position load requirements were obvious and immediate. For one thing, the average answering time was reduced from 7.1 to 5.9 seconds, and from 14 to nine per cent over 10 seconds.

Since all toll calls were being interposition trunked from the initial position to those designated as "toll," regardless of whether they were AB or long distance, the next step was a study of this operation. From the viewpoint of the subscriber, this practice was neither satisfactory nor desirable. To place an AB call, it was necessary for the subscriber to give the call order to two operators, once to the local and once to the toll. For a LD call, the subscriber had to repeat the call order three times, once to local, once to toll, and then the third time to the operator at the toll center. Thus, even with the reduced answering time, for the average AB call, 12 seconds had elapsed before the call order was given to the local toll position, and for LD, the elapsed time averaged almost 20 seconds, too long a period in this age of speed.

Before making any change in this operation, it was necessary to explore fully and re-hash the old argument as to AB versus toll operation. There is much to be said for each side of this question, and reams and treatises have been written on this subject. Without going into elaborate details, those who favor AB are inclined to point out the greatly increased speed of completion and high percentage of completion, and with these two factors will come increased volume and increased revenue, not an unimportant item. On the other hand, however, the ticket work, whether a message unit memorandum



or a full toll ticket, can reflect itself in a slow-down of both answering time and the completion of local traffic.

After considering and weighing these various factors, it was decided, for better or worse, to go into AB operation. It is important to note that while the lack of facilities and personnel made a thorough training program on the new procedures, routines, operation and ticketing quite impossible, yet each of the personnel was briefed in detail as to the effects this change would have in the day-to-day and hour-to-hour operation.

Then when the new operation was placed into effect, each operator in each position completed the operation indicated. If it was a local call, it was handled as any other such call had been handled in the past. If it was an AB call, the operator completed the circuit, secured the required information for the ticket and completed the call. Requests for LD calls were immediately passed on to the toll center.

It is true that during the first two days answering time went back to the point near which it had been, around seven seconds. The completion of AB and LD traffic, however, showed a great increase in speed of completion. But, by the end of the week, answering time had crept down where it belonged, for the operating personnel had slipped "into the swing" of the new procedure with the experience gained during the week. In addition, the speed of completion on the toll traffic was maintained.

With all due respect to our operating vice presidents, straw bosses, and what-nots, we, in the traffic department, have the toughest bosses in the whole world, none other than *Mr. and Mrs. John Q. Public,* not, of course, overlooking their teen-age children who are convinced that Don Ameche invented the telephone for their own individual convenience and "social" affairs.

It is this public who orders our service, or who now figuratively stands in line and hopes to order our service, gives us the orders for these calls, and then pays the bills. For traffic to achieve and maintain a high quality of service, involving low answering time, quick service and ability to get those calls through is not only our job, but more than that—it is a solemn obligation, an obligation to make sure that we do not fail in our responsibility and that we do maintain standards of service as high, or even higher, than can be reasonably expected. When that light appears in the subscriber's line lamp, one never knows whether it is a routine call or one of vital importance or a real emergency.

Bearing this in mind and doing our utmost to maintain that level of service, "impossible" though it may be, Traffic can always rest assured that it will be "Right—With the Public."

(To Be Continued)

Junior Telephones

Walkie-talkies, it appears, reports the New York Times, are not for the general public just yet. Parents of children of high-school age are hopeful, however. Such a parent is Timesman Mr. Saunders, who tells us that Mrs. S. and he have been keeping tabs on their house telephone and find that they have the use of it, outside school hours, only 3 per cent of the time. Recently Saunders has thought of trying to interest some capitalists in an idea of his for a Junior Telephone System, supplementary to the Bell System, which he believes will fill a long-felt want in literally millions of homes. But with walkie-talkies coming on the market soon and priced within the reach of all, the Saunders Junior Telephone won't really be needed.—**New York *Times*.**

CARRIER SYSTEMS

Principles of Operation

By ROBERT C. HUMMEL
Technical Advisor
West Coast Telephone Co.
Everett, Wash.

THE EARLY experiments with carrier currents as a means of adding telephone channels to existing wire lines demonstrated the feasibility of such a system. If one carrier channel could be superimposed upon one voice frequency circuit, why not a second over the first carrier, and why not a third carrier channel over the first and second?

The developments of the telephone art at the time had determined quite well the possibilities of the existing open wire and cable telephone plant and, in turn, these limitations determined the number of channels possible on each carrier telephone system. Let us discuss briefly some of the more important factors determining the parameters of the early carrier telephone systems.

Open wire lines were built according to well-established standards. These included: Wire size, the space between wires, transposition systems, insulators used, and the type of insulator supports, together with the permissible tolerances and deviations. Entrance cables had been kept as short as possible and the use of intermediate sections of cable in open wire leads had been discouraged. However, these cable sections, while not serious for voice frequency circuits, caused much higher losses at carrier frequencies. The toll cables were mostly 13-ga. copper conductors, insulated with wool or paper. This insulation was considerably thicker than exchange cables for several reasons.

First, the close spacing of the wires in a cable increased the capacity or condenser effect between wires. By this is meant the amount of electricity stored in the space immediately outside the wire.

PART IV. Multi-Channel Carrier Telephone Systems. The third article in this series appeared in the May 18 issue, page 13.

Second, the insulating medium, at best, could not equal dry air for insulating value and low capacity effect.

Third, a material that had a low affinity for moisture had to be used so the small quantities of moisture in the air, while splicing, etc., would not seriously impair the insulation. While the manufacture of cables with the larger diameter conductors lowered the resistance, the increased area of the conductor surface increased the capacity or condenser effect.

This capacity, or condenser effect, also had a more serious aspect at carrier frequencies, i.e., crosstalk from one carrier system to another carrier system. While this effect was balanced out for voice frequencies to a point where it was no longer an impairment, this balance was not adequate at carrier frequencies. To overcome this, the later cables have all carrier pairs shielded by a copper or bronze or brass shield woven over the pair and grounded to the sheath at frequent intervals.

Loading of open wire lines and cables had gone on a pace to extend the useful range of telephone transmission and was operative with the voice repeaters then used. However, whenever a circuit has the three elements of resistance, capacity and inductance, such as a loaded circuit has, it partakes of the nature of a filter. As a consequence, the losses increase at a very rapid rate above the operating band of the system of loading used—so much so that loading systems are considered to have a cutoff point, i.e., a top frequency above which it is not advisable to attempt operation. As a rule, loaded voice frequency circuits are not suitable for super position of carrier systems.

The design of suitable filters was a new science. Materials then were not available to meet the exacting requirements. Design problems had to start from scratch. Thus, while trial and error methods were used, original research as to the best materials to use, and engineering details as to design, had to be worked out. The early filters had to have much more band width than that transmitted. This was necessary in order to prevent noise in adjacent channels. Recent developments in filter design have permitted increasing the transmitted band width from about 2,200 cycles to well over 3,000 cycles within a 4,000-cycle band. For this reason, the newer "J" and "K" systems are also known as "broad band" systems.

Vacuum tubes were quite erratic. Precise frequency control was difficult. This affected amplification, modulation and demodulation.

The amount of amplification permissible on each channel and the consequent amount of power required affected the design of the various circuit elements.

Thus, the first generally used three channel carrier telephone system—the "C" system—had a frequency range of about 25,000 cycles (25 kilocycles) beginning at about five kilocycles and extending to about 30 kilocycles. This was necessary to include three channels west to east, plus three channels east to west, or a total of six channels at four kilocycles, plus one kilocycle addi-

tional separation between the bands in each direction. Assuming each channel transmitted was 2,200 cycles in width, the effective band, plus the one kilocycle directional separation totals only 14.2 kilocycles. This represents a loss of 25 kilocycles—14.2 kilocycles or 10.8 kilocycles due to filter design. Contrast this with the present broad band carriers of say 3,200 cycles transmitted over each four-kilocycle band. A three-channel system now will lose only 4.8 kilocycles due to filtering. This could be used to close up the carrier system band or to improve each channel. The latter plan has been adopted.

These early "C" systems operated very well and gave promise of still further improvement. During the succeeding years, improvements of materials, development of filter design, improvements in vacuum tubes and kindred apparatus such as the copper oxide rectifier for modulator and demodulator, volume limiters, improved circuit design and the experience and knowledge gained from radio apparatus, have permitted a redesigning of these older "C" systems, and the standardization of four types of "C" systems, each with a different frequency allocation within the same band. The frequency bands overlap, but the carrier frequencies and side bands used are so chosen that these four systems can be assigned to different pairs in the same open wire lead without crosstalk.

It was found advisable, however, to retranspose existing leads for "C" carrier operation whenever more than two systems were to be used over considerable distances. So a transposition scheme was evolved to reduce the crosstalk coupling to the required limits up to 30 kilocycles. This system of transposition is applicable to open wire lines constructed according to pre-carrier standards.

Thus, the "C-5" systems have come forth as "standard equipment" to provide three carrier channels over one voice circuit (not over phantom circuits, only on the side circuits of a phantom group, or on physical circuits, i.e., those not phantomed).

The "C" system represents the largest of what are known as the low frequency carrier systems, for, as more channels were added, the frequency band required broadened beyond the limits permissible with existing open wire line construction. To differentiate, the division was made between low frequency systems, as described hereto, and the high frequency systems such as the "J" and "K" systems.

"YOU HAVE A RULE AGAINST 'FOREIGN ATTACHMENTS,' DON'T YOU? OKAY, THEN, REMOVE MY MOTHER-IN-LAW, SHE'S TIED UP THAT PHONE FOR TWO DAYS"

—Reprinted from Public Utilities Fortnightly.

Let us consider the "J" carrier system.

In this system, there are 12 two-way channels, or a total of 24 channels in all. In accordance with present design, each channel is 4,000 cycles wide; thus, the system requires an over-all band width of 24 x 4,000 cycles, or 96,000 cycles. As the lowest frequency used is 36,000 cycles, the frequency band extends from 36,000 to 140,000 cycles.

The west-east band is 36 to 84 kilocycles, while the east-west band is from 92 to 140 kilocycles. Please note the separation between directions of eight kilocycles, i.e., from 84 to 92 kilocycles, required for the "J" system.

The "J" system is broad enough to cause what is known as "cross modulation." For example, when a carrier frequency is modulated, various side bands are produced as we discussed previously. Now, if these side bands are present to any appreciable amount beyond the transmitting filters, it is probable that they may be within the band passed by the filter of some other channel. In this case, the receiving channel would be noisy. Crosstalk would not result as the two-carrier frequencies are not the same. To overcome this, the "J," "K" and "L" systems have the carrier frequencies for the 12 channels start at 64 kilocycles, and go in four-kilocycle steps to 108 kilocycles. The second side band of the 64-kilocycle carrier thus would be 120-128 kilocycles, well above the upper band of 108-112 kilocycles. The same reasoning will apply to any harmonics produced in the system. The frequency assignment and filter system is such that these unwanted components are outside the system operating limits.

These three carrier systems use the same carrier frequencies for the 12 channels transmitting and for the 12 channels receiving. A carrier current supply is provided which supplies the 12 carrier frequencies for several systems. Thus, "J," "K" and "L" carrier systems can be supplied interchangeably from the same carrier power supply. This is a decided saving in the use of these systems.

(To Be Continued)

We are all human and have no doubt felt like "putting him in his place," or "snapping that old woman's head off," and yet, stop for a moment and think about the outcome. After you have indulged in a flare of temper just how do you feel? Any better? No, if you're completely honest with yourself you'll feel a tinge of regret and embarrassment. You have practiced for months and years to cultivate poise, self-control, self-assurance and refinement. In one brief instant of anger all that work has been reduced to nothing.—**Public Service.**

THE PLANT MAN'S NOTE BOOK

BY
RAY BLAIN
TECHNICAL
EDITOR

WE HAVE heard numerous rumors of late to the effect that, in some sections of the country, it has been necessary to abandon the use of phantom circuits because of power induction. Also, that this difficulty is on the increase due to various extensions of high tension power transmission lines. If any of our readers have information on this subject, we would like to hear from them.

* * *

According to the old Oriental proverb, "If you wish your own merit to be known, acknowledge that of other people."

* * *

The installation of 20,255 telephones during February brings the total to over 157,000 now in German civilian service in the United States zone of occupation. In addition to this number, there are also approximately 17,500 U. S. military telephones connected to civilian switchboards.

* * *

Recently, while discussing telephone recording with a user of certain equipment, I asked for an explanation of its outstanding advantages. The answer, much to my surprise, was the marvelous hearing quality of this equipment. It was then explained that often a person would be asked to repeat a statement two or three times before it could be understood. Later, when the recording of the conversation was played back, it was interesting to note that the statement could be clearly understood the first time. In other words, the recorder could understand and repeat clearly what the user could not. This, in the writer's opinion, represents an improvement in telephone communication.

* * *

American farms have more than 1,500,000 telephones. Chicago has more telephones than London, which is two and a half times Chicago's size. Moscow is 12 times as big as Denver, but Denver has more telephones. The United States as a whole has 27,000,000 telephones,—one to each five persons, or almost one to the average sized family.

Some telephone companies are frequently negligent in the keeping of their plant records. Often, due to the rush of work, plant changes are made and the records are not corrected. This is considered false economy for incorrect records cause loss of effort and a waste of time later. This applies especially to underground plant where accurate locations are most important.

* * *

There is every reason to believe that the use of solderless wiring will increase considerably in the telephone industry. This type of connection has proved highly successful for some time. The soldering of jumper wire on main frames always has been considered a slow and bothersome job. If connections are not properly made, noise and cut-out will result. Men in a hurry often run jumper wires on the main frame and then neglect to solder them later as planned.

The accompanying illustration shows how solderless connectors are used to avoid soldering of any kind on jumper work. The terminal merely is attached to the wire with a special tool and then hooked on the special terminal on the main frame connecting block.

* * *

It would seem that proper use has not been made of loud speaking telephones in the past for special installations. In this connection, we refer to such locations as elevators and other confined spaces. When a handset is installed in an elevator, it is generally placed in a niche, but even then it is usually subjected to rather rough usage which makes its maintenance difficult. If a loud speaking telephone were used for this purpose and equipped with a speaker microphone it could be mounted flush which would make a neat and

trouble-free installation. A push to talk button could be provided. A similar arrangement, it would appear, could be used to advantage in apartment houses which would obviate the loss of handsets or receivers by theft.

* * *

A new arrangement, still in the process of development, appears to have certain advantages for use instead of drilling a hole in rock for using dynamite by the old method. This new device is known as a shaped charge which carries 10 pounds of explosives in a metal container. The top has a cap hole for receiving a blasting cap. The charge is held the proper distance from the ground by three metal legs.

It is claimed that when this charge is properly used, it makes a hole about 2½ ins. in diameter through a 30-in. reinforced concrete slab. A second charge placed over this hole is claimed to increase its depth to 45 ins. and diameter to 3 ins. at the surface and 2 ins. at the bottom end.

PLANT MAN'S QUIZ

Q. What type of open space cut-outs can be used in humid climates where moisture causes trouble on the conventional carbon blocks?

A. When the main frame is installed in a properly air conditioned building, carbon blocks can be used regardless of the high humidity. When air conditioning is not available, the main frame can often be inclosed in a cabinet which contains heating units to maintain the temperature above the dew point to prevent condensation. This avoids trouble on carbon protector blocks.

When climatic conditions are such that carbon blocks cannot be used in station protectors an arrangement which incloses a discharge gap in a vacuum may be used. This type of protector has proved extremely satisfactory where climatic conditions are extremely severe.

* * *

Q. When should lighting protection be provided at a cable terminal?

A. The opinions of engineers differ considerably on this point although good judgment dictates the use of protection whenever there is even the slightest possibility that it may be required. This procedure will always prove good insurance. One rule frequently used in this connection is to provide open space cut-outs at the cable terminal when any aerial line connected to it is over one-fourth mile in length. On this basis, all other circuits connected to the terminal should be provided with the same protection, regardless of their length, in order to prevent excessive potential between cable conductors. Fuses should be added to the protectors when lines are exposed to possible contact with power circuits.

* * *

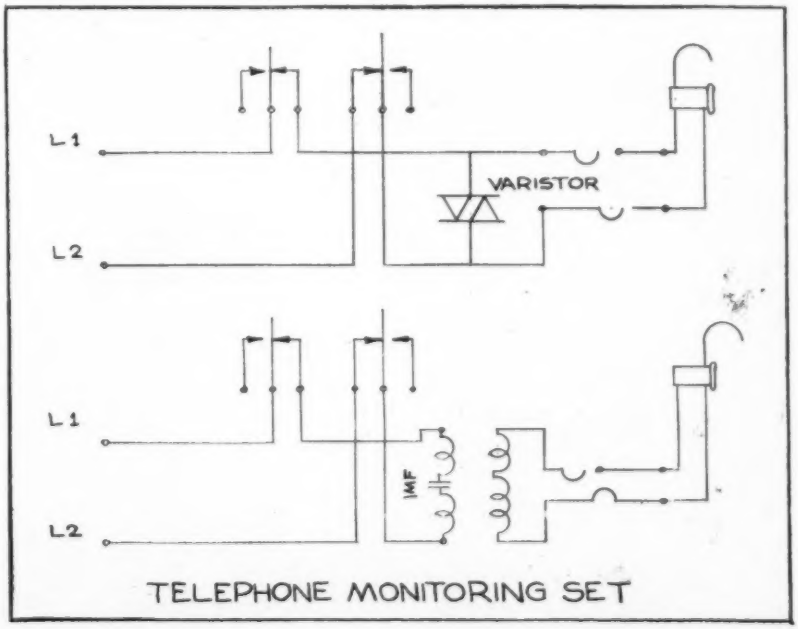
Q. Will dry cells deteriorate when not in use in a telephone, but standing on a shelf in the office?

A. The conventional type of dry cell will deteriorate whether or not it is on open circuit or on discharge due to internal losses. The rate of deterioration will vary with the size and type of cell and with temperature and humidity. In general, the smaller the cell the shorter will be its shelf life. High temperatures increase the cell shelf loss while low temperatures decrease it.

* * *

Q. Please describe a monitoring set that will not be a serious detriment to conversation when used by an operator on a telephone line to take notes of a conversation.

A. The sketch below shows both the varistor and the repeating coil type of monitoring set which may be used on common battery telephone lines.



TELEPHONE MONITORING SET

Q. When underground telephone and power cables are installed in the same trench, how much separation must be maintained?

A. The generally accepted practice is to install the two services parallel in the trench and separate them by 12 ins. of well tamped earth or not less than 3 ins. of concrete.

* * *

Q. Should a telephone operator on a local board attempt to use cord pairs in rotation?

A. Opinions differ on this, but, in general, it usually is considered desirable to select cord pairs in rotation until they have all been used. Generally it is convenient to work from left to right. Disconnected cord pairs should not be used again until they are reached by rotation. This plan not only equalizes cord wear on the position, but also reduces cord tangling according to our traffic informant.

* * *

Q. When poles are set perpendicular on a steep grade, we find it difficult to hold the line wire in the groove of the insulator. Can you advise any special treatment for this condition?

A. The general practice when the grade of a line exceeds 20 per cent is to notch the crossarm so that the groove in the insulator will be parallel with the line wire. This is accomplished by cutting the top of the gain deeper than the bottom and boring the hold for the through bolt parallel with the line wire.

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IN THE NATION'S CAPITAL

BY
FRANCIS X. WELCH
WASHINGTON
EDITOR

Recent FCC grant of most of the relief sought through rate increases for the Western Union Co. provides telephone companies with a valuable precedent from a federal regulatory commission. FCC's opinion proves that the telegraph industry is still the "sick man" in the communications field.

ON JUNE 4 the Federal Communications Commission granted for a trial period of one year, most of the relief sought (by way of rate increase) for the Western Union Co. This development bears out the forecast made in this department several weeks ago. But there are some important strings attached in the commission's opinion, which bear analysis. First of all, let's get clearly in our minds, in one-two-three fashion, just what the majority of the FCC (Commissioner Durr dissenting) granted to Western Union. Here is a summary:

(1) Authorized a flat 10 per cent increase in telegraph message rates for the period of one year.

(2) Refused to grant the requested elimination of the present 20 per cent differential in charges favoring the United States government messages as compared with other messages.

(3) Granted other special rate adjustments sought in the Western Union rate application, including elimination of the "tourate" and the "longram" messages.

(4) Indicated further hearings in the proceeding to be held in September.

(5) Announced that the FCC would institute a general investigation into Western Union for the purpose of making additional recommendations and findings on long-range policy affecting the telegraph industry in this country. (A special appropriation from Congress for the FCC will be sought for this purpose.)

The rate increases and revisions authorized in the commission report would produce $18,441,816 additional interstate revenue, on the basis of Western Union calculations. The company, by applying to the states for like increases, expects to obtain approximately $1,700,000 additional intrastate revenue, making a total of slightly more than $20,000,000. But the FCC report expresses the view that Western Union has underestimated its revenue requirements and overestimated the increased revenue to be obtained from the rate changes. Nevertheless, the commission decided to grant the increases, saying, in part:

"We are not prepared, however, to find that the proposed rate increases will not result in a substantial increase in revenues to Western Union, especially in view of general economic conditions prevailing today. People may be willing to pay higher prices for telegraph service now, although we realize fully the element of speculation that is involved here, because air mail, and interstate telephone and teletypewriter exchange rates are not being increased. In view of Western Union's dire need for additional revenue, we are of the opinion that it should have the opportunity which it is requesting, namely, to seek relief from operating losses by rate increases."

In other words, the FCC is pretty skeptical about the chances of Western Union getting as much relief from the proposed rate increase as Western Union expects. Yet it feels that the company is at least entitled to see what it can do along that line, by way of rate increase.

To this extent, the FCC majority follows an accepted guiding principle of regulation supported by a number of court and commission decisions in the past years. Stated simply, this principle amounts to this: It is up to management in the first instance to decide whether it feels it can get more or less revenue from a proposed rate increase; and if the management of a utility (presently operating at a loss) has made such a decision, a rate increase should be authorized. This clashes with the dissenting opinion of Commissioner Durr, who stated:

"A rate increase has no value whatsoever . . . in meeting Western Union's basic difficulty. It seems clear to me . . . that a rate increase, in the face of the growing competition of long distance telephone and air mail will merely speed Western Union on its course toward insolvency.

"The only kind of rate adjustment which will contribute in any way to the solution of the company's problems will be an adjustment in the direction of substantially reduced rates . . ."

While one may have difficulty in following the logic of Commissioner Durr's conclusion that the best thing an unprofitable utility company can do is to reduce its rates, the criticism of Western Union's management and the gloomy analysis of Western Union's competitive position, which occurs in the majority opinion of the FCC, presents a pretty disturbing picture. What is going to happen to the telegraph business of this country, for example, if the rate increase does not bring all or substantially part of the relief expected? The FCC majority cagily declines to suggest more than certain vague and ominous alternatives. Majority states:

"Whatever value a rate increase may have as a temporary expedient, it does not of itself meet Western Union's basic difficulty. If there is a real need in this country for the service which Western Union can provide, something more basic must be done, and done soon, to meet the problem of developing a strong and efficient telegraph system in the United States."

The majority hints at two possible alternatives without coming right out and saying as much. First, there is the possibility that Western Union's competitive position might be stabilized, if not improved, by the merger of its services with certain profitable and competitive operations, such as teletypewriter (TWX), now largely operated by the telephone industry. This would probably require additional leg-

islation from Congress. In any event, the FCC might possibly want some definite declaration of congressional opinion before it starts to go into the job of sorting out the activities which might be assigned to this, or that of the other communications industries.

The other alternation, of course, is the old story of public ownership or some hybrid between public ownership and public control, plus public subsidy.

The FCC is not talking too much or too plainly about that aspect of this case, right now. The reason is that it wants to reserve that field of inquiry for more thorough exploration at its forthcoming, full-dress investigation. But anticipating the "bare bones" of the agenda which such an investigation must cover, it looks to this writer as if the FCC is going to start digging into the following general questions:

(A) Do we need a telegraph business in this country? Stated another way, could we get along without it, by letting telephone, air mail, teletypewriter, and facsimile services fight it out for the bulk of the communications traffic—supplementing their respective activities by such transmission of written messages as they can handle in one way or the other?

(B) Assuming we need a telegraph business in this country, is it possible for it to continue to operate as a profitable form of private enterprise? If so, what steps by way of legislative protection might be taken to stabilize the business on that basis?

(C) If we still need a telegraph business in this country, but it cannot be operated profitably in the face of competitive factors, how can its continued operation be assured? Private operation—plus subsidy? A hybrid of public and private operation, along the lines of some prewar European utility operation? Straight out-and-out government operation probably as an adjunct of the United States Post Office department?

One can see at a glance that there is plenty of meat here, for a general investigation by the FCC. Furthermore, the telephone industry is very likely to have a substantial stake in the conduct and outcome of such a general investigation by the FCC. The situation recalls a statement made nearly seven years ago by this writer, as follows:

"The telephone industry is in no present danger of public ownership as compared with the electric power industry. No body of any authority is seriously suggesting public ownership for the telephone business. Yet, it would be most unwise for the industry to forget about such a thing entirely. If and when public ownership comes to the communications industry in the United States, it is not likely to come in the front door in the form of direct seizure of a profitable and efficient telephone business; it is far more likely to slip in the back way in the form of helping out an unprofitable telegraph business. Once established, it will not be a comfortable neighbor to have living next door, if private enterprise in the telephone business is to survive."

COMING CONVENTIONS

Washington Independent Telephone Association, Spokane Hotel, Spokane, June 14 and 15.

Oregon Independent Telephone Association, Multnomah Hotel, Portland, June 21 and 22.

California Independent Telephone Association, Miramar Hotel, Santa Monica, June 27 and 28.

South Dakota Telephone Association, Hotel Carpenter, Sioux Falls, September 11 and 12.

Michigan Independent Telephone Association, Hotel Olds, Lansing, September 18 and 19.

United States Independent Telephone Association, Stevens Hotel, Chicago, October 14, 15 and 16.

North Carolina Independent Telephone Association, Pine Needles Hotel, Southern Pines, November 11 and 12.

South Carolina Independent Telephone Association (no hotel selected), November 14 and 15.

Alabama Independent Telephone Association, Jefferson-Davis Hotel, Montgomery, November 18 and 19.

Georgia Telephone Association, Henry Grady Hotel, Atlanta, November 21 and 22.

Florida Telephone Association, Marion Hotel, Ocala, November 25 and 26.

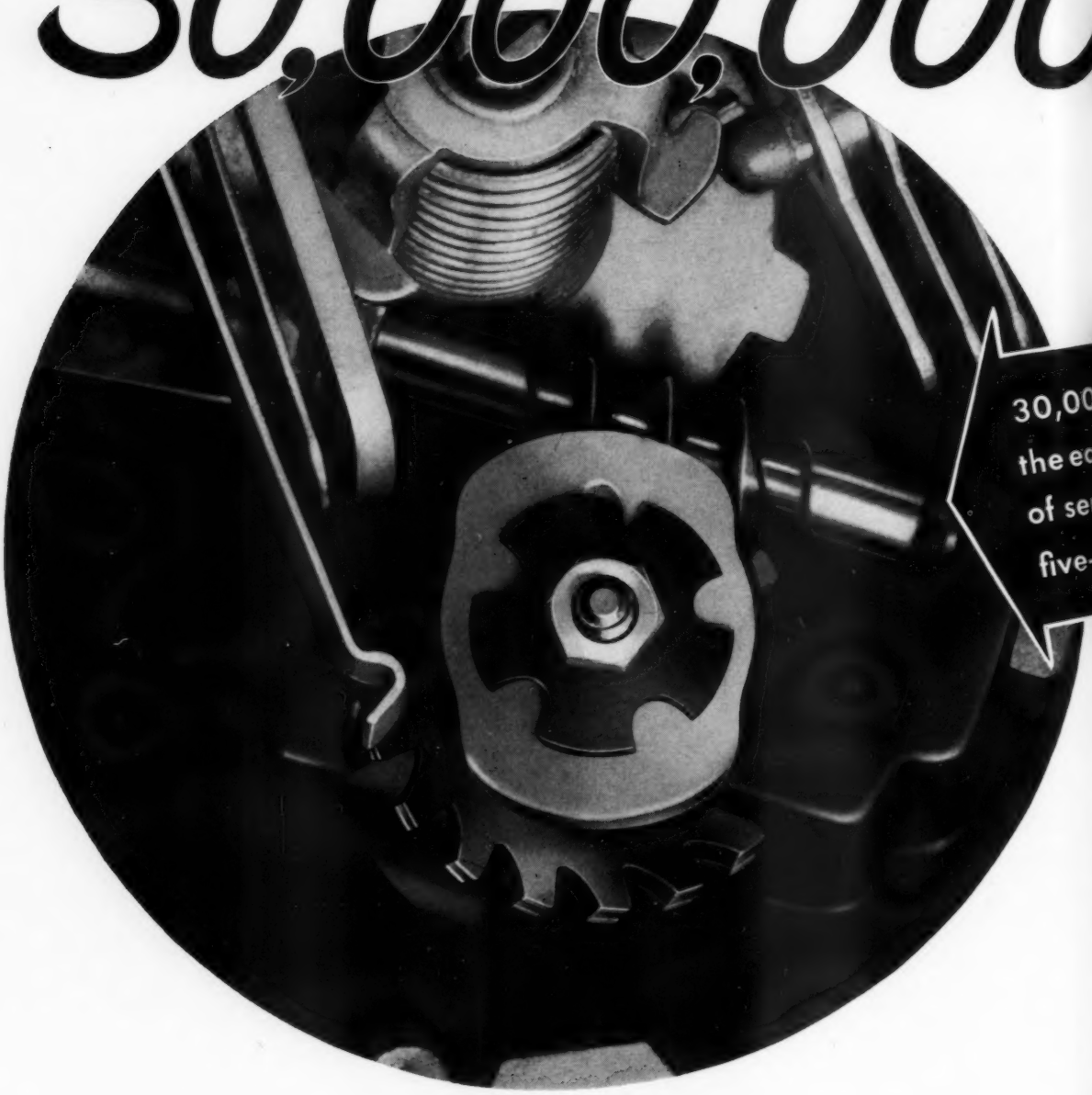
Those remarks were mentioned at a time when the merger between Western Union and Postal Telegraph had not been accomplished or authorized by Congress. They were made during a period when Postal Telegraph was heavily indebted to the federal government as a result of loan from the Reconstruction Finance Corporation (RFC). But although this merger now has been accomplished, it will be seen from the FCC's opinion in the Western Union case last week, that the telegraph industry is still the "sick man" in the communications field. It still has a most disturbing economic effect on all branches of commercial communication activities.

The Western Union hearing, which began April 29 and ended May 17, was conducted under the cooperative agreement between the FCC and the National Association of Railroad and Utilities Commissioners. The state cooperating commissioners were Chairman Hacking of Utah, Vice Chairman McWhorter of Georgia and Commissioner Meins of Massachusetts. The FCC report of June 4 states that: "The cooperating state commissioners participated in the deliberations leading to the decision reached herein, and they agree in general with the decision." In the section of the report dealing with U. S. government rates, a footnote advises that: "The cooperating state commissioners recommended the elimination of the U. S. government rate differential, if legally possible, and if it could not be eliminated, that it be narrowed." No presentation was made at the hearings on behalf of any state commission, but at the argument, the general solicitor of the NARUC stated that the Idaho and Missouri commissions opposed the granting of the application for rate increases.

One important result of the FCC opinion in the Western Union case is the effect it may have on other commissions faced with rate increase petitions based on unprofitable utility operations. Here is a plain, open-and-shut case of a utility having its operations thrown into the red as the direct result of a federal government order increasing payroll expenses. The last official act of the old War Labor Board, which died at midnight on the first day of this year, was to boost Western Union's payroll to $25,000,000 a year and to direct the payment of about $31,000,000 in back wages. As a result the FCC finds that Western Union,

(Please turn to page 34)

30,000,000



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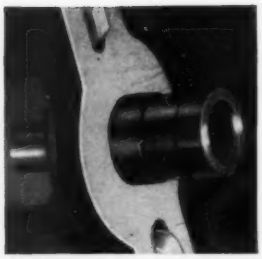
Governor worm is accurately cut—turns smoothly and quietly on ball thrust bearing.

Special laminated worm gear is self-lubricating, non-sticking, long-wearing.



Extra-long main bearing prevents side-play, minimizes wear.

Impulses—

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serv e rate of 25
ve-d s per day!

This impulsing mechanism on a standard Automatic Electric dial has already operated more than thirty million times in controlled "life" tests in the Automatic Electric Laboratories. Translate these 30,000,000 impulses into years of service on your own telephones, and you'll know why these rugged dials have been adopted as standard by hundreds of telephone companies.

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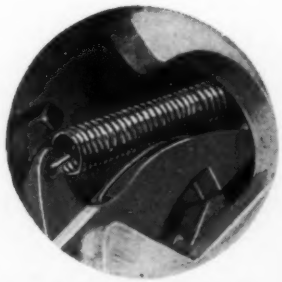
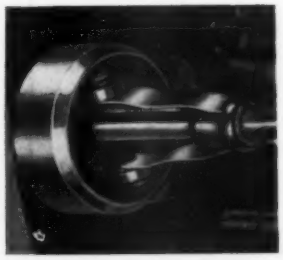
wl-lock prevents dial g at end of its operation.



Patented "quieted" pawl makes this the world's quietest commercial dial.



Fiber inserts in governor provide positive speed control, with negligible wear.

Flanged finger-plate provides greater strength, minimizes "fly-wheel effect."

THE OPERATOR'S CORNER

BY
MAYME WORKMAN
TRAFFIC
EDITOR

FROM the beginning of time, women have been concerned about what they shall wear. Generally speaking, they consider their choice of attire a personal matter. Telephone operators are no exception to this general rule. The question of proper attire in the central office operating room bobs up occasionally and chief operators are in a quandary as to how far they should go in attempting to regulate the mode of dress of employes working under their supervision.

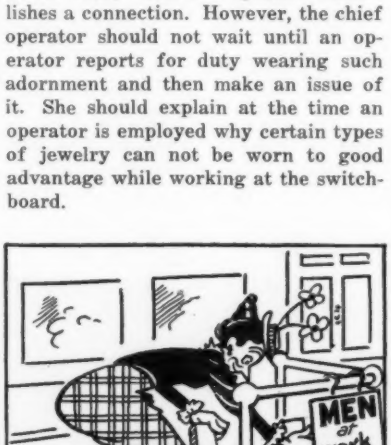
Off hand, let's say that the wise chief operator realizes that people, especially youngsters, are sensitive of any criticism of their choice of clothing. This is apparent, knowing they frequently resent any interference on the part of their parents in dictating, suggesting or attempting to tell them what they shall or shall not wear. Therefore, it is not difficult to sense their reaction to having a chief operator tell them they are not permitted to wear this or that. Youngsters usually fall in line and follow the mode of dress of other employes in the central office. This is true of older girls, too.

If a chief operator has a desire to create a real problem in her office, all she has to do is serve an ultimatum as to what her operators may or may not wear while they are on duty in the operating room. The result will be chaos, to say the least. Indignation will prevail and determination to wear what they choose, or else. This is not a foreign attitude on the part of switchboard operators of the present era. In 1894, the period of the so-called "gay nineties," switchboard operators exhibited a similar attitude when the manager of an Illinois telephone company objected to the long skirts of the switchboard operators. He declared that dust stirred up by them interfered with clear connections by clogging terminals. The operators were ordered to wear dresses that cleared the floor by three inches. Indignation and copious tears followed but, according to the story, the order stood. In 1894 women in business were a novelty, so the writer has been told, and the manager was not troubled with force turnover or recruiting problems.

While it was true then, as it is today, that management is justified in objecting to anything that has a detrimental effect upon the equipment or service, if such a proposal were made today, the writer is confident the operators would say, "Let's get rid of the dust and keep our long skirts," but there would be no need for this statement because management of today would not make such a proposal. Today, management is more concerned with its employes' comfort and welfare and in keeping them in a happy frame of mind.

Switchboard operators are business girls and the chief operator should encourage them to dress accordingly. The best time to do this is when a girl is employed. The well dressed business girl wears simple clothes. She is well groomed, that is, her clothes are neatly pressed, clean and fresh and free of any body odors. She is scrupulous about the care of her body being aware that to be offensive to others is an unpardonable breach of etiquette.

Certain types of adornment are a nuisance at the switchboard, such as a string of bracelets that roll up and down every time an operator establishes a connection. However, the chief operator should not wait until an operator reports for duty wearing such adornment and then make an issue of it. She should explain at the time an operator is employed why certain types of jewelry can not be worn to good advantage while working at the switchboard.



It is an inherent desire on the part of our sex to be appropriately dressed for the time, place and occasion, therefore, it should not be difficult to create a desire on the part of switchboard operators and other female employes to choose the proper type of attire to be worn in the central office.

Judging from her experience in meeting thousands of switchboard operators over a period of years in small, medium-sized and large exchanges, our operators are doing a commendable job in choosing their attire, in the writer's opinion. Get a group of operators together, at a conference, for example, and they could well be an example of what the well dressed business girl is wearing.

The problem of what an operator should wear while on duty becomes a minor issue as it is usually an individual one rather than a general one.

If a chief operator is approached by an operator and her opinion is solicited in making a selection of wearing apparel, for example, by all means try to be helpful, but never, never, dictate or tell an operator what she shall or shall not wear. Also, never express your opinion if it has not been solicited.

Questions from Illinois Operators

(1) On a collect station-to-station call, the party answering requests that the charges be transferred to another number. Can this still remain a station call?

(2) Should we try to make a report charge collect if the calling party has not requested us to do so?

(3) When a call is canceled that has a report charge of 30 cents and the customer requests the charge on his call, should the operator quote "30 cents plus a tax," or just 30 cents?

(4) When can a charge be transferred to a third station?

(5) Can a part of a message charge be transferred on a call originating at a subscriber's station?

Answers to these traffic questions are presented on page 34.

"WHEN THE 'GRUNT' SHOULD BE BOSS!"

By ROY P. McGALLIARD
Division Superintendent,
Jersey Central Power & Light Co.,
Asbury Park, N. J.

[EDITOR'S NOTE: *We are very pleased to present this article, written by Mr. McGalliard for "Public Utilities Safety News." On his original copy Mr. McGalliard had inscribed the following: "Written by one of the worst offenders, during his time as a lineman."*]

Common horse sense should prevent most accidents, but in this free country where one can act pretty much as he pleases, the so-called *superiority complex* often creates the "can't-be wrong type" of worker who generally leads into an accident with both chins!

OUR OWN good common horse sense should protect us from having accidents more than all the safety rules ever written. There are times, however, when all of us sort of wander from the straight and narrow for one reason or another and wind up by having an accident. In writing this it is my intention to try to show how an accident may be avoided.

Because this is a free country where one can act pretty much as one pleases a lot of us have picked up a so-called "*superiority complex*." This, in fact, to such an extent that many have become quite temperamental — particularly the skilled or master mechanic. And when this state of importance has been reached extreme care must always be exercised when you say "Good morning" to him, for he is likely to put you in your place at once.

When the coffee isn't just right at breakfast, woe be unto the person who is required to work side by side with this "*Prima Donna*" for several hours. One of three things usually happens to this *can't-be-wrong man* at an early date. When he begins to ooze with importance he either resigns, gets fired, or has an accident.

Having worked in the public utility field for many years, it has been a pleasure to work with most linemen, but occasionally you come in contact with one who is pure and simple cussedness himself. So we'll take this particular "*stump jumper*" apart and see what makes him tick.

First off, it's either too hot or too cold and he bellyaches about it all the way out to the job. When he gets his tools together and is up on the pole, he becomes lord and master of all he surveys. That, gentlemen, is the time for you to watch your step for, after all, that coffee he had for breakfast was lousy and he hasn't forgotten it. Unless he gets into a heated discussion with his boss he will win all arguments during the day; after all, *he is a line man!*

Usually, to console his vanity and raise his prestige in the eyes of his fellow workmen, so he thinks, he starts out by telling the lowly grunt how d—— dumb he is for not doing a certain thing in a certain manner. And a little later the gutter rat, having survived the first tirade of abuse, will say in a very meek voice, "Do you want a line hose to cover the primary wire next to your shoulder?" Or, "Your foot is against that ground," or "Don't drop anything, there are pedestrians coming."

Well! Old cussedness has just been waiting for this opportunity. He starts in on the squeak and ends up on the truck driver—and may even call on the Lord to give him a few more cuss words so he can melt the tacks in their shoes. After all, who are they to tell him his business? So he wins another argument as there doesn't seem to be anyone around to question his authority.

One way to acquire wings is to try this stunt without them! (Indiana Telephone News.)

Yes, he won this time, but how about the next time? He's lucky to have another chance again tomorrow, but sooner or later "Old Lady Chance" will get him, for from that day on he is entirely on his own. The grunt and the truck driver, having been properly reprimanded, do just what they are told in the future and let "Old Cussedness" look out for himself.

When the groundman warned him of danger *he was merely using a little common sense* in trying to avoid an accident and had no thought in mind about giving orders to the lineman. It would have been much better for everyone concerned had the lineman, at this particular time, let the grunt be boss!

In other words, it wouldn't have injured the lineman or his prestige in the least to have said, *"Thanks for warning me, pal, you may have saved my life or at least avoided my having an accident."*

[*Mr. McGalliard attached a note to say: "This has been written in the interest of safety only and does not refer to any person, living or dead. But, if there should be anyone that this shoe does fit, then, let him wear it, though I'm sure it doesn't fit the majority."*]

La Salle Hotel Operator's Son to Receive Fund

The Chicago Telephone Traffic Union, an organization of Chicago's 8,000 telephone operators, on June 7 said it will provide John Joseph Berry, 16, son of Mrs. Julia Curran Berry, 44, telephone operator and heroine of the La Salle Hotel fire, the college education his mother had been striving to attain for him. Mrs. Berry remained at the switchboard of the hotel, warning guests of the fire until she died.

Mrs. Emma Jascot, president of the union, said that for two weeks starting June 10 containers for voluntary contributions from telephone operators will be set up in all Chicago exchanges. The money thus obtained will be turned over to the youth or his guardian for educational purposes.

Many operators had called to propose such a fund, Mrs. Jascot said. Many of them had worked with Mrs. Berry when she was an employe of the Illinois Bell Telephone Co. 13 years ago, she said.

"This is no idle gesture, but one which comes from the heart," Mrs. Jascot said. "No one understands better than the telephone operators themselves how Mrs. Berry felt the night of the fire. When something happens involving lives, telephone operators forget about their troubles and stick to their posts, doing the best job they know how."

In other campaigns conducted by two newspapers, The Chicago *Sun* and The Chicago *Times*, citizens were urged to contribute to a fund for Jack Berry, the orphaned son. The first day's contributions mostly sent by special delivery after the *Sun* announced the fund, brought the total to $738, including $500 donated by the *Sun* to start the fund.

The *Times* also made an initial contribution of $500 and will pool its contributions with those received by the *Sun*.

Mrs. Julia Berry will be considered for the Theodore N. Vail award, Illinois Bell Telephone Co. officials announced June 5.

The award, established by the late president of the American Telephone & Telegraph Co., is given annually to those engaged in telephone work who have performed outstanding acts of public service.

The telephone company said Mrs. Berry's devotion to duty "undoubtedly saved hundreds of lives, although it meant the loss of her own."

Wisconsin Telephone Names G. F. Crowell Vice President

George F. Crowell, chief engineer of the Wisconsin Telephone Co., Milwaukee, has been elected a vice president of the company. He is succeeded as chief engineer by Robert C. Siegel, former plant extension engineer.

Mr. Crowell has been continuously engaged in the telephone business for 41 years, his first position being that of night operator. In his new assignment, he will conduct and direct business research and revenue requirement studies.

Mr. Siegel has been an employe of the Wisconsin Telephone Co. for 27 years.

V V

Illinois Bell Makes Executive Changes

At a recent meeting of the board of directors of the Illinois Bell Telephone Co., William O. Kurtz, vice president, operations, at his own request was relieved from active duty pending his retirement.

Graham K. McCorkle, formerly vice president, personnel and public relations, was appointed vice president, operations, to succeed Mr. Kurtz. At the same time J. N. Stanbery, formerly general personnel manager, was appointed vice president, personnel.

Mr. Kurtz's telephone career began in 1905 in the engineering department of the New York & New Jersey Telephone Co. After holding various engineering positions in several Bell System companies, he came to Illinois Bell in 1924 as chief engineer. Later he became general manager and in 1938 was elected a director and vice president, operations.

Mr. McCorkle first entered the Bell System as an office boy in the telephone company in Kentucky in 1902. After progressing in the plant, traffic and commercial departments in various Bell System companies, he returned to the Illinois Bell in 1930 to become vice president, public relations, which position was later expanded to include personnel.

Mr. Stanbery's entire telephone career has been in the Chicago area of the Illinois Bell Telephone Co. After 17 years of broad experience in the plant department, he was advanced to general personnel manager in 1942, which position he has held to date.

V V

Sound-Proofs Switchboard Room

Sound-proofing of the switchboard room to reduce room noise by the Farmers Mutual Telephone Co., Clarinda, Iowa, was recently completed as another move to improve service to the subscribers.

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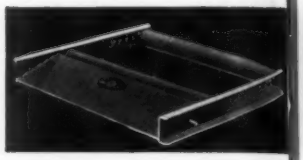
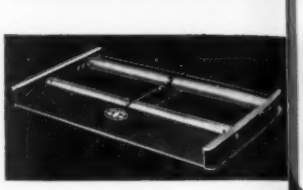
roll-a-reel

handles heavy reels qui

economically, and saf





STYLE A (top) Width 30″; Depth 2
Height 3½″. Weight, 50 lbs. Capa
2000 lbs. Supports up to one 28″ w
reel.

STYLE B (below) Width 52″; De
28″; Height 4″. Weight, 110 lbs.
pacity 4000 lbs. Supports two 24″ w
reels or up to one 48″ wide reel.

- Sturdily built, with heavy ga
steel frame to roll reels of wi
cable, steel strand or rop
- Separate sets of rigidly align
ball-bearing rollers for each s
of the large reels. No slippi
or friction between rollers a
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- Ball-bearing rollers are at sa
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- Amazingly low cost.

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They conform to or exceed A. S. T. M. standards

the nation's standard for drying cable splices

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PROTEK-SORB desiccant absorbs moisture almost instantly and leads to good voice transmission faster than any other type desiccant. Protek-Sorb desiccant is made of silica gel, in a scientifically determined particle size that flows easily . . . into, between, around, and behind wires in the sleeve.

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- Dries faster
- Dries more completely
- Restores service quicker
- Safe and easy to use
- No fumes or odor
- Requires no heating
- Doesn't attack metals or insulation
- Packed in convenient-size, airtight containers

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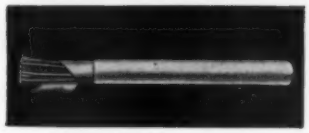

Engineered to perform with maximum efficiency under all normal conditions without shorts or crosstalk, Kennecott terminating and inter-phone cable has proven its high quality in years of service with leading telephone companies.

These outstanding features demonstrate its superiority:

- Conductors furnished Tinned, Bare, Enameled, or Tinned Enameled.
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STROMBERG Telephone CARLSON

COURTS and COMMISSIONS

Asks Expanded Service, Rate Boost for West Virginia

The Berea & Slab Telephone Co., Harrisville, W. Va., which now operates 15 hours each week-day and only four hours on Sundays and holidays, wants to give its subscribers 24-hour service and to increase its rates accordingly.

The Public Service Commission of West Virginia set for hearing on June 13 the company's application to increase its rates to customers at Cairo, Ellenboro, Harrisville and adjacent areas of Ritchie County.

Suggested increases include from $2.00 to $2.80 a month for a business telephone and from $1.50 to $2.10 a month for residence service.

The company is applying also for permission to discontinue its exchange service at Rusk, Ritchie County, because of interference from grounded rural electric lines and lack of sufficient income to support better service in the community.

V V

Lake City, Minn., Company Asks Higher Rates

Application of the Dwelle Telephone Co., Lake City, Wabasha County, Minn., for authority to change its schedule of rates, will be heard July 8 by the Minnesota Railroad & Warehouse Commission. Present and proposed rates follow:

Class of Service	Present Gross Rates	Proposed Gross Rates
Individual line, business	$3.50	$4.25
Two-party line, business	3.00	3.75
Individual line, residence	2.50	2.75
Four-party line, residence	1.75	2.00
Rural multi-party, business	2.00	2.75
Rural multi-party, residence	1.75	2.25

V V

Governors Condemn Strike Against Public Utilities

Governors attending the 38th meeting of their national conference in Oklahoma City, Okla., May 28 moved toward sharp condemnation of organized strikes against public utilities and essential services but without taking sides on President Truman's proposal to draft labor.

A suggested draft was handed the resolutions committee, which read that labor, industry and any other group must be prohibited from interfering with essential services, including utilities and transportation.

V V

Question Right of Cities To Tax Utilities

An effort by the city of Youngstown, Ohio, to tax light, gas, and telephone bills was taken to the Ohio Supreme Court May 29 on a question of whether a city was barred from such a source by the state.

Lamar Jackson, attorney in a taxpayers' suit started by Raymond Holcomb, argued that the state of Ohio, through its 3 per cent tax on gross receipts of utility companies, had taken over that field.

Henry C. Church, assistant city solicitor of Youngstown, replied that both the city and the state took their sovereignty from the same source—the people—and thus had equal sovereignty, especially under the home rule amendment to the state constitution.

Both the Mahoning County (Ohio) Common Pleas Court and the District Court of Appeals have upheld the city's contention that it could set up such a tax, amounting to 2½ per cent of the total of the customer's total bill for each service.

Mr. Church estimated it would cost each gas, electric, and telephone user between $5.00 and $10.00 a year. Receipts from the tax have been impounded during the litigation.

"The whole pattern of Ohio's tax structure," Mr. Jackson argued, "supports the theory that the city cannot levy such a tax. In no field has the state so clearly made a fixed pattern. The legislature had two basic ideas, one that no retail sale should avoid a 3 per cent tax and second that there should be no duplication of taxes."

Judge Edward C. Turner asked how Mr. Jackson reconciled an attempted parallel between federal-state relations and state-city with the fact that inheritance taxes are imposed by the federal and state governments, and Mr. Jackson replied:

"There they have equal power or sovereignty, not as between the state and cities, where there is a dominant sovereignty."

"But the federal government specifically delegated to the states the power to levy state taxes," Judge Turner countered.

"If this field of utility taxes has not been preempted by the state," Mr. Jackson continued, "then the whole past thought of this court is a mere matter of words. The whole principle of limitation of power of the cities is a mere matter of words."

The court took the arguments under advisement.

V V

Offer Map of California Telephone Exchange Areas

The California Railroad Commission has just published a four-color map showing telephone exchange areas in California as of December 31, 1944. The map was prepared by the commission's staff with the cooperation of the telephone companies and the California Independent Telephone Association.

Three colors are used to identify, respectively, exchanges of the Pacific Telephone & Telegraph Co., Southern California Telephone Co., and the Independent telephone companies. The territory of each Independent company is identified by boundary lines. The map contains an index to companies and exchanges, which shows the number of stations in each exchange as of the map date.

The map is 25 x 29 ins. over-all and

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has a scale of 25 miles to the inch. Copies are available at $1.00 plus sales tax. Requests should be addressed to the Railroad Commission of the State of California, State Building, San Francisco 2, Calif.

V V

FCC Grants Western Union Message-Rate Increase

The Federal Communications Commission on June 4 granted Western Union Telegraph Co. a stop-gap increase of 10 per cent in message rates and ordered a sweeping investigation into its operations to find means of keeping the company solvent.

The rate increase will be in effect for one year only. The company also was authorized to discontinue certain special services and revise rates and charges for others.

V V

Ask Higher Rates

The Public Service Commission of West Virginia on June 4 at Charleston heard a petition of the Inland Telephone & Telegraph Co to increase its rates nearly twice the present amount for 475 subscribers at its exchange in Middlebourne, Tyler County.

Summary of Commission Rulings and Hearings

California Railroad Commission

May 31: Hearing on complaint of G. Young against service of California Water & Telephone Co. at Redlands.

Oklahoma Corporation Commission

May 23: Application of P. B. Odum, Tourist Camp & Lumber Yard for telephone service from Southwestern Bell Telephone Co. stricken from docket to be reset on additional notice.

July 16: Investigation by commission of rates charged by Sasakwa (Okla.) Telephone Co., continued from May 29.

Wisconsin Public Service Commission

June 3: Hearing on request of Mrs. Mitchell Fletcher for extension of service from Burlington exchange of Wisconsin Telephone Co.

June 4: Hearing on application of Farmers Telephone Co., Porter, Rock County, to sell lines near Evansville to Wisconsin Telephone Co.

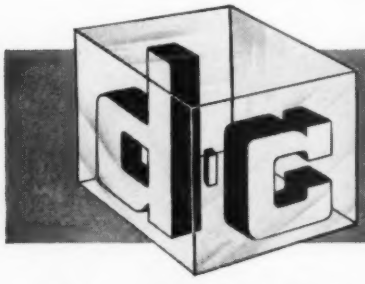
June 11: Application of Clayton (Wis.) Rural Telephone Co. for authority to increase rates.

June 14: Hearing on commission's investigation of rates, rules and practices of Dodgeville & Union Mills Telephone Co.

New Appointments Announced by Southern New England Company

Lincoln D. Smith, formerly attached to the commercial department, Southern New England Telephone Co., at Hartford, Conn., has been appointed customers' service supervisor with headquarters at Waterbury. He will direct a survey program which will undertake to fill requests by business houses to re-examine communications facilities and provide instruction for up-to-date telephone usage. He entered the company's employ in the commercial department at Danbury in 1927, became office manager at New Haven in 1935 and was transferred to Hartford in 1938.

Irving E. Baker has been assigned the duties formerly handled by John F. Welch, assistant secretary and assistant treasurer of the Southern New England company, in addition to his own as assistant treasurer and assistant secretary. Mr. Baker joined the company in 1913 as a clerk in the accounting department, later became chief payroll supervisor and in 1929 attained his present post. Mr. Welch entered the company's service in 1906. Upon termination of a leave of absence now accorded him on account of his health, Mr. Welch will be given special assignments in the treasurer's group.



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Savings in both space and weight are features of G-E Selenium Rectifiers. Engineered and produced in a wide choice of sizes and capacities, they do a big job where limited space is a factor. They're designed to withstand extreme variances in ambient temperatures, humidities, and atmospheric pressures.

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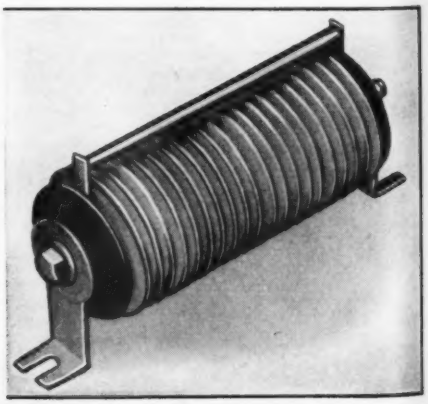

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Keeps batteries fully charged at all times—ready for any emergency

This compact charger—fully automatic and noiseless in operation—can be permanently connected to your battery installation. A voltage-sensitive relay holds the battery voltage within narrow limits by automatically varying the charging rate as needed—high charge or trickle, depending on battery potential. Both high and trickle charging rates are easily adjustable.

The d-c output circuit is filtered to prevent the introduction of "hum" on the telephone lines. Circuits are protected by fuses and an overload switch, and connections are provided for an alarm circuit to indicate overload or cessation of charging. Meters are also provided to indicate battery voltage, charging current and load current.

The Federal Selenium Rectifier used in these battery chargers is known throughout the electrical industry for its rugged construction and long trouble-free service. Federal telephone battery chargers are available for charging 12- or 24-cell batteries in ratings from 1 to 16 amperes d-c, with a-c input circuits for standard line voltages, 50 or 60 cycles, single phase. For complete data, write for Bulletin E 248.

DESIGN FEATURES

- Noiseless Operation
- Filtered Circuits
- Automatic Regulation
- Overload Protection
- Trickle and High Charge
- Alarm Contacts
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  - —The Best Brass for the Purpose.
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- **PRECISION WORKMANSHIP**
  - —Machined to Specifications.
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- **LONG WEARING**
  - —Highest Quality Materials and Superior Workmanship Combine to Produce a Plug with a Long Service Life Expectancy.
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These Plugs Can Be Shipped with Runzel High Quality Cords Attached.

Write Us Today Giving Code Number of Plugs You Now Have in Service.

BUCKEYE
TELEPHONE & SUPPLY CO.
COLUMBUS, OHIO

In the Nation's Capital

(Concluded from page 23)

under its present telegraph rates, is going into the hole at the rate of $1,000,000 a month. Stated another way, the FCC figured that Western Union would run up a deficit of $12,000,000 for the year 1946, unless it can get some rate relief.

Telephone companies, which have experienced similar difficulty on a smaller scale as a result of payroll increases and other rising operating expense items, thus are furnished with a valuable precedent from an important federal regulatory commission, if, as and when they find it necessary to go before their own state commissions with petitions and rate increases. If Western Union is entitled to a rate boost because it can't make ends meet (as a result of a War Labor Board wage increase order), the telephone companies likewise are entitled to appropriate rate relief, when they find themselves in relative, similar circumstances.

V V

Los Angeles to Catalina By Microwave, Radio-Telephone

Frank N. Rush, vice-president and general manager of the Southern California Telephone Co., Los Angeles, picked up a telephone on May 27 and said: "Hello!" Ultra-shortwave magic then stepped in.

His "hello" was broken into two-inch ether pieces, vibrated up and down 1,000,000 times a second, and thrown with the speed of light to an 800-foot peak on Santa Catalina Island, 40 miles away. There a pair of antennae "ears" caught the fragments, unscrambled them, and they became a word again.

Received at Avalon by Harry H. Slaugh, executive vice-president of the Santa Catalina Island Co., that "hello" and the subsequent five-minute conversation marked the official opening of microwave radio-telephonic service between the mainland and the offshore resort.

Developed during the war by Bell Laboratories experts, and tested in European combat, the equipment is being commercially used between Los Angeles and Santa Catalina for the first time. It adds eight circuits to the 15 submarine cable circuits between the two points.

A far cry from the wireless-telephone used across the Catalina Channel in 1919—which crystal-set kibitzers dubbed the "world's biggest party line" — the new service is directionally beamed, cannot be intercepted, and gives clear reception that permits interchangeable use with cable circuits.

V V

OBITUARIES

HARRY CURTIS MARBLE, 74, LaGrange, Ill., for many years manager of the old Home Telephone Co., Champaign, Ill., died June 3 in LaGrange, following a long illness.

Mr. Marble was graduated from the University of Illinois College of Engineering in electrical engineering in 1896. He served as an assistant in the eletrical engineering department during 1898-1902.

Joining the staff of the Home Telephone Co. he was its manager when the dial system was installed in 1907. After the Home Telephone system was sold to the Illinois Bell System in 1919, Mr. Marble was transferred to Chicago as chief engineer in the office of the Bell System, where he remained until 1940 when he retired.

He was married to Sara Trevett, daughter of the late Mayor Henry Trevett of Champaign, on June 21, 1913, in Decatur. Her death occurred over a year ago. Mr. Marble leaves a son and a granddaughter.

* * *

JOHN A. SCHNEIDER, 77, manager of the Ozark Central Telephone Co. at Argyle, Mo., for 40 years, died suddenly June 6 at his home following a stroke.

Answers to Traffic Questions on Page 26

(1) Yes, since a call is not classed as "paid" or "collect," but as "charged to a third station" if the charge is transferred to a telephone other than one of the two between which conversation is held.

(2) This action should not be taken.

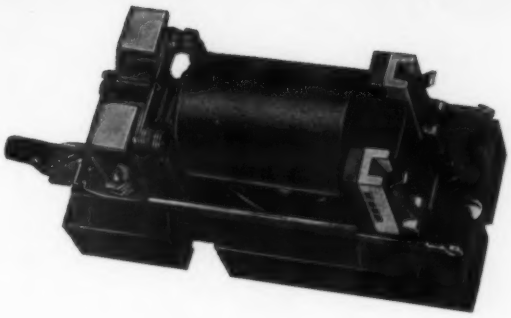
(3) The operator should quote the amount of the charge, adding, "plus tax."

(4) The charge may be transferred to a third station if the day station rate to that telephone from either the calling or called station is 35 cents or less, provided the third telephone is not a coin station and accepts the charge.

(5) No. A part of a charge may not be transferred except on calls from public stations.

FAHNESTOCK ELECTRIC COMPANY, INC.

Type 3-A Arrester Relay



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EXTRA LIFE!

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You get a lot of "extras" when you use Taylor-Colquitt Poles of Southern Pine.

Sound, straight trees, from some of the finest stands in the South, provide poles with tremendous strength, and the uniformity that makes good-looking pole lines. Each pole is machine-trimmed, on special Taylor-Colquitt machines—turned out round and smooth and true. And then, after proper seasoning, it is treated with creosote—thoroughly impregnated to a depth of 2½ inches (or 95% of the sapwood)! A final treatment with live steam produces a clean, dry finish, makes poles easy to handle in any weather.

These Taylor-Colquitt "extras" at every point ***pay off*** in EXTRA YEARS of trouble-free service. That's why we sell, and recommend, Taylor-Colquitt poles.

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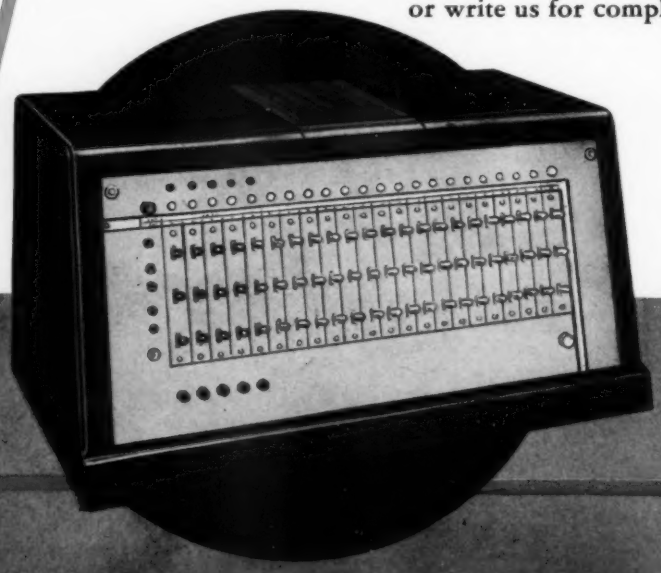
These colorful, streamlined Switchboards are the answer to the current demand for something modern. Two-tone genuine walnut cabinet harmonizes with sun tan panels, distinctively colored key handles, and rich brass fittings. They are truly Switchboards in keeping with the most ultra decorative plan.

To find out for yourself how the No. 120 and No. 121 Stromberg-Carlson P.B.X. Switchboards can be helpful to you, consult your Stromberg-Carlson representative, or write us for complete information.



STROMBERG-CARLSON NO. 121 CORDLESS P.B.X. SWITCHBOARD

Wiring and Capacity: 16 lines, 5 trunks, and 5 connecting circuits. Connects with any central energy exchange, either manual or dial. Length: 2′ 2¾″; Height: 1′ 2″; Depth: 1′ 2¾″.

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P.B.X. SWITCHBOARD

Wiring and Capacity: 80 lines, 15 cords and 15 trunks. Connects with any central energy exchange, manual or dial, through jack-ended trunks. Height: 3′ 9⅝″; Width: 2′ 1⅛″; Depth: 2′ 8″.

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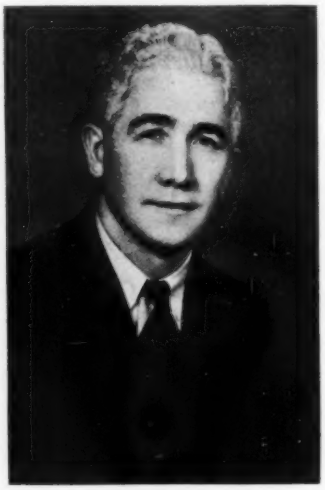
Inter-Mountain Company Names Department Heads

Due to the great increase in volume of work placed upon its combined commercial and traffic department, the Inter-Mountain Telephone Co., Bristol, Tenn., has divided the commercial and traffic activities into two individual departments. John E. Sexton, former general auditor of the company, has been named general commercial manager and A. E. Reynolds, secretary-treasurer, is general traffic manager. Cecil H. Thomas, accountant for the company since the first of the year, succeeds Mr. Sexton as general auditor.

In another departmental change, W. L. Gardner, plant superintendent since January, 1942, has been named general plant manager.

Mr. Sexton joined the Inter-Mountain company as a switchboard installer's helper in June, 1922, following his graduation from high school at



J. E. SEXTON

Marion, Va., and continued to work until the following September when he enrolled at King College, Bristol, Tenn. He returned to the company in June, 1924, as repairman, leaving the following September to continue his education in electrical engineering at Virginia Polytechnic Institute. During his vacations, he assisted his father in his public accounting firm at Bristol.

In December, 1928, Mr. Sexton returned to the telephone company as switchboard installer at Bristol. He was promoted to wire chief at Kingsport, Tenn., in July, 1929, and in November, 1938, was appointed plant superintendent for the Kingsport district, becoming manager there in September, 1939. On December 15, 1940, he was appointed general plant manager of Inter-Mountain, and in January, 1942, was made general auditor.

Mr. Sexton is a member of the Independent Pioneer Telephone Association and of the Telephone Pioneers of America.

A. E. REYNOLDS

After the completion of his formal schooling at Pine Bluff, Ark., in June, 1917, Mr. Reynolds became associated with the telephone company at Corinth, Miss., as a groundman. His aptitude for telephone work was soon apparent and he received several promotions until he became chief engineer for the Allen Properties.

In 1922 Mr. Reynolds accepted the position of sales representative for the Kellogg Switchboard & Supply Co., covering the states of Alabama, Mississippi and Tennessee. In 1923 the Kellogg company recognized his ability along switchboard equipment lines and promoted him to assistant switchboard sales manager at its main office in Chicago.

In September, 1925, he became assistant to the president of the Inter-Mountain Telephone Co.

In spite of the pressure of business, Mr. Reynolds has found time to serve as past president and director of the Tennessee Independent Telephone Association. He is now a member of the Traffic Committee for the Independent association.

Mr. Thomas received his elementary and high school education in Lawrenceburg, Ky. In 1927 he graduated from Transylvania College, Lexington, and for the next three years he taught history, English, and mathematics at Danville (Ky.) High School.

From 1931 to 1932 Mr. Thomas attended the Bowling Green College of Commerce, Bowling Green, Ky., where he obtained his B. S. degree in accounting.

He was instructor of commercial work at Erwin (Tenn.) High School from 1932 to 1935, after which he was

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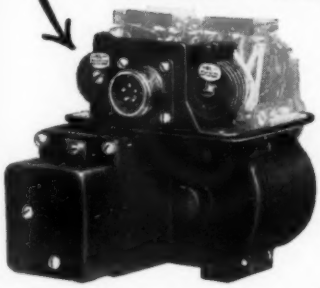

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C. H. THOMAS

head of the commercial department of Kingsport High School until 1938, resigning to become business manager of the College of the Ozarks, Clarksville, Ark., which he resigned in 1942 to accept a position with the city of Hopkinsville, Ky., Electric System as chief accountant.

He was professor of business administration at Tusculum College from 1944 until June, 1945, at which time he became affiliated with the Tennessee Valley Authority as field accountant.

W. L. GARDNER

Mr. Gardner completed his elementary and high school training in Louisville. In the fall of 1922 he enrolled in the University of Purdue where he studied mechanical engineering. After three years at Purdue he transferred to the University of Kentucky where he obtained his M. E. degree. He first entered the telephone field while going to high school as a draftsman with the Louisville Home Telephone Co., continuing his drafting work with that company during the summer vacations of his college years.

The Southern Bell, which had taken over the Louisiana company, promoted Mr. Gardner to outside plant engineer at Lexington, Ky., in 1926.

In 1937 he accepted the position of state outside engineer for the Michigan Associated Telephone Co. He joined Inter-Mountain in May 1941, as engineer.

V V

British Columbia Telephone Pioneers Plan Birthday Fete

The birth of Vancouver's telephone system in 1885—one year before the city itself was incorporated—was recently commemorated at the annual dinner of the British Columbia Chapter, Telephone Pioneers of America.

George Pittendrigh of New Westminster, B. C., who helped to install Vancouver's first telephone switchboard 61 years ago, was made a life member of the organization. Mr. Pittendrigh also received a membership pin containing a diamond, symbolic of Vancouver's 60th birthday.

He is the only man living who worked for the three successive telephone companies on British Columbia's lower mainland — the original organization, the New Westminster & Port Moody Telephone Co., its successor the New Westminster & Burrard Inlet Telephone Co., and the present British Columbia Telephone Co. In later years he was employed by the B. C. Electric Railway Co., Ltd., but is now retired.

Other retired employes of the telephone company and associated industries who received life memberships included William Silver, Ernest Cole, Victor Williams, Mrs. Lily Babington, David Thomson, Mrs. Alice Lawrence, all of Vancouver; Mrs. Alice Tuck, Courtenay; Miss Catherine Cheney, Parksville; William Topham, New Westminster, and Miss Mary Lloyd, Victoria.

V V

Five Florida Towns to Install Dial Systems

The Florida Railroad Commission June 3 announced approval of applications for permission to install automatic dial telephone systems at Branford, High Springs, Malone, Eustis and St. Marks.

The dial exchanges at Branford, High Springs and Eustis will be installed by the Florida Telephone Corp.; at St. Marks by the Southeastern Telephone Co., and at Malone by J. C. Gissendaner.

Western Electric Elects G. L. Best Vice President

George L. Best, who has been assistant vice president of the American Telephone & Telegraph Co., New York City, was elected vice president of the Western Electric Co. on May 28.

Mr. Best, a native of Vermont, was graduated in 1921 from the University of Vermont with a B.S. degree in civil engineering. After a short period of employment in the construction field, Mr. Best joined the Bell System as an assistant engineer in the New York Telephone Co.'s commercial department in 1922.

G. L. BEST

He rose through various engineering assignments and in 1927 entered the AT&T Co.'s commercial engineering division. Mr. Best advanced to commercial engineer in 1940 and two years later was appointed assistant vice president. In his new capacity, Mr. Best will have charge of securing necessary licenses under patents of others for use by the Bell System, and for licensing others to use Bell System inventions.

V V

Cook Installs Generators In Record Time

With urgent delivery schedule commitments in the balance, the management of Cook Electric Co., Chicago, Ill., acted quickly when faced with a three-day per week shutdown caused by the recent Chicago power curtailment.

Two 100 KVA diesel generators, weighing 7½ tons each, were located and purchased from the War Assets Administration the day the emergency was announced. By the following day, they had been transferred 85 miles, installed, and were supplying electricity for production operations. War Assets officers said that the rapidity

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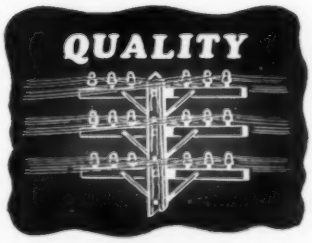

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Graybar has been closely associated with your industry since the very inception of the telephone. The Graybar Specialist near you understands telephone operations. His responsibilities are to see that you get the best items for your needs, to see that they arrive when and where you want them, and to see that they do the job the way you want it done. So you're sure of *really helpful service* via Graybar.

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LOCATES TROUBLE -INSTANTLY

Indicates hot or grounded wires. Tells AC from DC. Far superior to ordinary clumsy test bulb. Indispensable in shop or home. The only pocket-size tester with PATENTED SAFETY FEATURE.

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It is achieved in telephone instruments by simple design and rigid assembly such as you get in

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with which this purchase was completed established a new all-time record.

As a result, the entire Cook plant with the exception of welding and heat treating departments was able to continue uninterrupted production. These diesel generators will be installed permanently after the emergency and will supply power for controlled atmosphere, electric brazing, tempering, annealing, and drawing furnaces.

V V

American Coach & Body Names Sales Outlet

The American Coach & Body Co. of Cleveland, Ohio, largest manufacturers of standard utilities equipment for motor vehicles, announces the appointment of the Baker Equipment Engineering Co. of Richmond, Va., as a sales and service outlet in the South.

J. B. BAKER

The Baker Equipment Engineering Co. distributes all types of motor truck and trailer equipment. Joseph B. Baker, its president, has been in the automotive field since 1921. Ernest Nylander, vice president and general manager, is in full charge of designing, manufacturing and installations departments, while Jefferson C. Davis, sales manager, looks after the actual sales and sales promotion.

V V

Col. Grable Joins Staff Of Automatic Electric

Col. John C. Grable, recently retired from service in the Army Air Forces, has joined Automatic Electric Co. in the capacity of staff engineer, according to an announcement by W. J. Caverley, president of the company. Colonel Grable had been in the military service since 1917, and at the time of his retirement was chief, Operations Division, Air Communications Office, Headquarters, AAF.

COL. J. C. GRABLE

In his new capacity, Colonel Grable will engage in technical and advisory duties on matters dealing with the design, manufacture and operation of communications and other equipment for the Army Air Forces and the Army Service Forces, and will also maintain contact with military authorities and civilian customers with the objective of assuring satisfactory performance of the company's equipment and apparatus in service.

Before entering the service in 1917, Colonel Grable served for 13 years with various telephone and other utility companies. His work in these fields included engineering, maintenance and construction of outside plant and central office maintenance and operation.

Early in his military career, he graduated from the Signal Corps Company Officers' Course and the Field Artillery School, and served in the Philippines, Panama, French Indo-China and Japan. Originally commissioned in the Field Artillery, he was transferred to the Signal Corps in 1928 and detailed in the Air Corps in 1944.

During the early '30's, and again during the period from 1938 to 1941, Colonel Grable served as chief of the Wire Division, Office of the Chief Signal Officer. His duties in this capacity included the operation, maintenance, engineering and installation of all army post telephone exchanges, and target range and Seacoast Defense fire control systems. He also organized the decentralized system of construction and installation in the United States and possessions, and was responsible for the formulation of standardized methods of operation and maintenance of wire communication systems throughout the Army, his duties involving the operation of a group of telephone sys-

tems having over 300 exchanges with a total of 105,000 telephones.

In his recent assignment as chief of the Operations Division of the Air Communications Office, Colonel Grable was responsible for the operation of the world-wide Army Airways Communications, and exercised staff supervision over fixed radio and wire facilities of the AAF, including the construction, maintenance and operation of 652 base telephone systems, 148,000 miles of leased telephone and teletype networks and the AAF TWX, weather and flight control networks. In this capacity also, he represented the AAF on various government and military boards and committees having to do with communication matters.

During the war Colonel Grable served for two years as deputy to the Chief Signal Officer at General McArthur's headquarters in the Southwest Pacific Theatre. After returning to the United States in 1944, he was assigned to the General Staff, Second Air Force, Colorado Springs, Col., during the intensive training of B-29 bomber organizations. In 1945 he was selected for inclusion on the general officer's eligible list.

Colonel Grable's long experience with the communication requirements of the various branches of the Army and his thorough knowledge of procedures and policies in these fields are expected to be of valuable assistance to Automatic Electric and its customers in the engineering and supply of communication equipment.

V V

J. R. Stewart Returns To Stromberg-Carlson

J. Russel Stewart, recently released from the U. S. Army Signal Corps, has returned to his duties with the Stromberg-Carlson engineering division. He will work on the development of carrier current telephone equipment, according to an announcement by Frederic C. Young, vice-president in charge of engineering and research.

Prior to the war, Mr. Stewart was employed in the Stromberg-Carlson research laboratory. Called to active service in February, 1942, as a lieutenant in the Signal Corps, he was made chief of development and design of vehicular radio equipment at the Camp Coles (Calif.) signal laboratory. Later Mr. Stewart supervised the installation, operation, and maintenance of radio teletype equipment at army headquarters in San Francisco, the army communications links to Hawaii, the Philippines, Australia, and other Pacific outposts. He rose to the rank of major before he left the armed forces.

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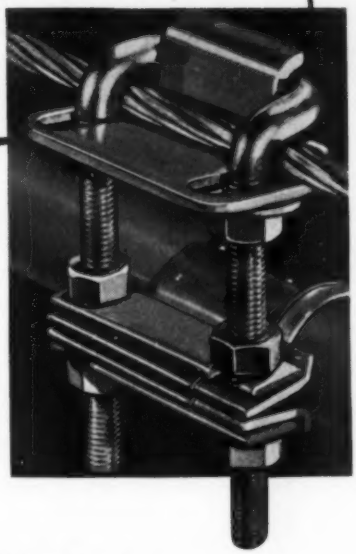

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Announcement was also made of the appointment of Arthur W. Melloh to the telephone transmission group. Mr. Melloh will be responsible for the development of Stromberg-Carlson carrier current equipment. During the war he trained officers and enlisted personnel in the operation and maintenance of a wide variety of underwater sound equipment at the Navy's San Diego (Calif.) radio and sound laboratory. He was at one time an instructor at the University of Minnesota, and before the war was employed in the development laboratory of the Automatic Electric Co.

V V

Graybar Electric Announces New District Managers

A. H. Nicoll, president of the Graybar Electric Co., New York City, has announced the appointment, effective June 1, of Edward R. Yonkers as assistant district manager at Detroit, Mich., and also the appointment of new managers at Omaha, Neb., and Duluth, Minn.

Mr. Yonkers, present manager at Omaha, joined the Graybar organization at Wichita, Kan., in 1933 as a salesman. The next year he was moved to Kansas City, Kan., where he served successively as salesman, lighting sales manager, and supply sales manager until 1944 when he went to Omaha. He was a member of the Chamber of Commerce and the Electric Club of Kansas City.

Day L. Harper, Graybar manager at Duluth since 1941, on June 1 succeeded Mr. Yonkers as manager at Omaha. Mr. Harper joined the company as a salesman in the Minneapolis territory in 1932. Since then he has served there as appliance sales manager and lighting sales manager. He was a member of the Minneapolis Junior Chamber of Commerce.

On May 1, Paul D. Barber took over the duties of manager at Duluth where he succeeded Mr. Harper. After graduating from Iowa State University, Mr. Barber began work with Graybar at Minneapolis in 1934. Three years later he rose to the position of assistant supply specialist and early in 1942 he was called to active duty with the U. S. Army Signal Corps. He attended Officer Training School at Fort Monmouth, and later studied at the Radar Schools at Harvard and the Massachusetts Institute of Technology. His final assignment was to the Signal Corps Laboratories as officer in charge of a group of production engineers. Major Barber was relieved from active duty January 1.

"Hell with the police! Get my wife, I'm two hours late for dinner."

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